

HEAT WAVE SAFETY TIPS

- **Slow down** - Strenuous activities should be reduced, eliminated, or rescheduled to the coolest time of the day. Individuals at risk should stay in the coolest available place, not necessarily indoors.
- **Dress for summer** - Lightweight, light-colored clothing reflects heat and sunlight, and helps your body maintain normal temperatures.
- **Put less fuel on your inner fires** - Foods (like proteins) that increase metabolic heat production also increase water loss.
- **Drink plenty of water or other non-alcoholic fluids** - Your body needs water to keep cool. Drink plenty of fluids even if you don't feel thirsty. Persons who (1) have epilepsy or heart, kidney, or liver disease, (2) are on fluid restrictive diets or (3) have a problem with fluid retention should consult a physician before increasing their consumption of fluids. **Do not drink alcoholic beverages.**
- **Ways to cool your body** - Air-conditioning in homes and other buildings markedly reduce danger from the heat. If you cannot afford an air-conditioner, spending some time each day (during hot weather) in an air-conditioned environment affords some protection.
- **Don't get too much sun** - Sunburn makes the job of heat dissipation much more difficult.
- **Do not take salt tablets unless specified by a physician.**
- **Consult your physician if you take medications** - Certain medications may dehydrate some people and some medications actually inhibit your body's ability to sweat (perspire). Sweating cools your body.
- **Contact or visit isolated people who may need help** - Economically or culturally-challenged or under-served people may need help seeking a cooler environment.

National Oceanic & Atmospheric
Administration
National Weather Service

HEAT: A MAJOR KILLER



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Children, Adults, and Pets Enclosed in Parked Vehicles are at Great Risk

Each year, an average of 38 children die from hyperthermia as a result of being left enclosed in parked vehicles. Over 500 children have died due to hyperthermia since 1998! Hyperthermia is an acute condition that occurs when the body absorbs more heat than it can dissipate. This can occur even on a mild day. Studies have shown that the temperature inside a parked vehicle can rise rapidly to a dangerous level for children, adults, and pets. Leaving the windows slightly open does not significantly decrease the heating rate. The effects can be more severe on children and pets because their bodies warm at a faster rate than adults.

NOAA's National Weather Service

Heat Index
Temperature (°F)

Relative Humidity (%)	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	137	
50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
55	81	84	86	89	93	97	101	106	112	117	124	130	137			
60	82	84	88	91	95	100	105	110	116	123	129	137				
65	82	85	89	93	98	103	108	114	121	128	130					
70	83	86	90	95	100	105	112	119	126	134						
75	84	88	92	97	103	109	116	124	132							
80	84	89	94	100	106	113	121	129								
85	85	90	96	102	110	117	126	135								
90	86	91	98	105	113	122	131									
95	86	93	100	108	117	127										
100	87	95	103	112	121	132										

Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity

Caution Extreme Caution Danger Extreme Danger

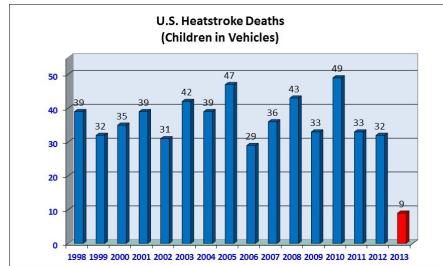
Excessive Heat Statistics

Heat is the number one weather-related killer in the United States. NOAA National Weather Service statistical data shows that heat causes more fatalities per year than floods, lightning, tornadoes, and hurricanes combined. Based on the 18-year average from 1995 to 2012, excessive heat claimed 193 lives each year. By contrast, tornadoes killed 75; floods, 79; hurricanes, 69; and lightning, 42.

In the disastrous heat wave of 1980, more than 1,250 people died. In the heat wave of 1995 more than 700 deaths in the Chicago, Illinois area were attributed to this event, and in August 2003, a record heat wave in Europe claimed an estimated 50,000 lives.

Vehicle Heating Dynamics

The atmosphere and the windows of a car are relatively "transparent" to the sun's shortwave radiation (yellow in figure below) and are warmed little. However this shortwave energy does heat objects that it strikes. For example, a dark dashboard or seat can easily reach temperatures in the range of 180 to over




200 degrees F. These objects (e.g., dashboard, steering wheel, child seat) heat the adjacent air by conduction and convection and also give off long-wave radiation (red) which is very efficient at warming the air trapped inside a vehicle. Shown to the right is a time lapse photo of a thermometer reading in a car over a period of less than an hour. As the photograph shows, in just one hour, the car went from a safe temperature to 123°F. These photos demonstrate just how quickly a vehicle can become a death trap for a child or pet. You can view an animation of the time lapse at: <http://ggweather.com/heat/heatingsmall.wmv>



BEAT THE HEAT! Child Safety Tips

- **Check to make sure seating surfaces and equipment** (child safety seat and safety belt buckles) **aren't too hot** when securing your child in a safety restraint system in a car that has been parked in the heat.
- **Never leave your child unattended** in a vehicle, even with the windows down.
- **Teach children not to play** in, on, or around cars.
- **Always lock car doors and trunks** - even at home - and keep keys out of children's reach.
- **Always make sure all child passengers have left the car** when you reach your destination. **Don't overlook** sleeping infants.

Know These Heat Disorder Symptoms

- **SUNBURN:** Redness and pain. In severe cases swelling of skin, blisters, fever, headaches. First Aid: Ointments for mild cases if blisters appear and do not break. If breaking occurs, apply dry sterile dressing. Serious, extensive cases should be seen by physician.
- **HEAT CRAMPS:** Painful spasms usually in muscles of legs and abdomen possible. Heavy sweating. First Aid: Firm pressure on cramping muscles, or gentle massage to relieve spasm. Give sips of water. If nausea occurs, discontinue use. 
- **HEAT EXHAUSTION:** Heavy sweating, weakness, skin cold, pale and clammy. Pulse unsteady. Normal temperature possible. Fainting and vomiting. First Aid: Get victim out of sun. Lay down and loosen clothing. Apply cool, wet cloths. Fan or move victim to air conditioned room. Sips of water. If nausea occurs, discontinue use. If vomiting continues, seek immediate medical attention.
- **HEAT STROKE (sunstroke):** High body temperature (106° F or higher). Hot dry skin. Rapid and strong pulse. Possible unconsciousness. First Aid: **HEAT STROKE IS A SEVERE MEDICAL EMERGENCY. SUMMON EMERGENCY MEDICAL ASSISTANCE OR GET THE VICTIM TO A HOSPITAL IMMEDIATELY. DELAY CAN BE FATAL.** Move the victim to a cooler environment. Reduce body temperature with cold bath or sponging. Use extreme caution. Remove clothing, use fans and air conditioners. If temperature rises again, repeat process. Do not give fluids. Persons on salt restrictive diets should consult a physician before increasing their salt intake.

